IN THE CLAIMS:

1. (currently amended) A method for administering nucleic acid to provide a polypeptide in cells in tissue of interest, comprising:

treating the tissue with a cGMP-specific, phosphodiesterase-5 (PDE-5) inhibitor compound; and

subsequently and/or simultaneously administering exogenous nucleic acid to the tissue, wherein the tissue is a solid cell mass selected from the group consisting of a solid organ and a solid tumor.

2-26. (Cancelled)

27. (Withdrawn) A method for producing a gene product in malignant cells or proximate to malignant cells in targeted tissue, comprising: treating the tissue with a cGMP-specific, phosphodiesterase-5 (PDE-5) inhibitor compound; and subsequently and/or simultaneously administering exogenous nucleic acid to the tissue, wherein the tissue is a solid cell mass selected from the group consisting of a solid organ and a solid tumor.

28. (Withdrawn) The method of claim 27 wherein the phosphodiesterase inhibitor compound ~~treatment~~ is sidenafil, which increases vascular permeability of the treated tissue.

29-35. (Cancelled)

36. (Withdrawn) A method of providing, to a recipient subject, donor cells that comprise nucleic acid exogenous to the cells, comprising: treating tissue comprising the donor cells with a cGMP-specific, phosphodiesterase-5 (PDE-5) inhibitor compound to increase vascular permeability of exogenous nucleic acid; subsequently and/or simultaneously administering nucleic acid to the tissue, wherein the tissue is a solid cell mass selected from the group consisting of a solid organ and a solid tumor; and introducing the donor cells into the recipient subject to provide a gene product of the nucleic acid.

37. (Withdrawn) The method of claim 36 wherein an organ comprising the donor cells is transplanted into the recipient subject.

38. (Withdrawn) The method of claim 36 wherein the donor cells are swine cells or primate cells.

39-47. (Cancelled)

48. (Withdrawn) A method for administering nucleic acid to provide a polypeptide in cells in tissue of interest, comprising: treating the tissue with an an activator of nitric

oxide or cGMP; and administering exogenous nucleic acid to the tissue.

49. (Withdrawn) A pharmaceutical kit comprising: a permeability agent that comprises a cGMP-specific, phosphodiesterase-5 (PDE-5) inhibitor compound; and nucleic acid for administration to a subject.

50. (Withdrawn) The kit of claim 49 further comprising a solution having a calcium ion concentration of less than about 500 μmol/L.

51-56. (Cancelled)

57. (Withdrawn) A treatment solution comprising: a) a cGMP-specific, phosphodiesterase-5 (PDE-5) inhibitor compound; and b) nucleic acid.

58. (Withdrawn) The treatment solution of claim 57 wherein the solution has a low calcium ion concentration.

59. (Withdrawn) The treatment solution of claim 57 wherein the solution has a calcium ion concentration of less than about 500 μmol/L.

60-62. (Cancelled)

63. (Withdrawn) A treatment solution comprising nucleic acid in a fluid carrier and a cGMP-specific, phosphophodiesterase-5 (PDE-5) inhibitor compound.

64. (Withdrawn) A treatment solution of claim 63 wherein the kit further comprises a permeability agent in addition to the phosphodiesterase inhibitor compound.

65. (Cancelled)

66. (Withdrawn) The treatment solution of claim 63 wherein the additional permeability agent is serotonin, bradykinin, VEGF, platelet-activating factor, prostaglandin E.sub.1, histamine, vascular endothelium growth factor, zona occludens toxin, interleukin-2, plasma kinins, L-N-monomethyl arginine, L-N-nitro-arginine methyl ester, nitroglycerin, nitroprusside or 8-Br-cGMP.

67-69. (Cancelled)

70. (currently amended) The method of claim 1 wherein the tissue is treated with the cGMP-specific phosphodiesterase-5 (PDE-5) inhibitor compound sildenafil to increase vascular permeability.

71. (currently amended) The method of claim 1 wherein the cGMP-specific phosphodiesterase-5 (PDE-5) inhibitor compound is a bicyclic heterocyclic compound.

72. (currently amended) The method of claim 1 wherein the cGMP-specific phosphodiesterase-5 (PDE-5) inhibitor compound is selected from the group consisting of: a pyrazolo[4,3-d] prymidin-7-one, pyrazolo[3,4-d] pyrimidin-4-one, quinazolin-4-one, purin-6-one, ~~or~~ and pyrido[3,2-d]pyrimidin-4-one.

73. (currently amended) The method of claim 1 wherein the cGMP-specific phosphodiesterase-5 (PDE-5) inhibitor compound is selected from the group consisting of: sildenafil, zaprinast, ~~or~~ and T-1032.

74. (currently amended) The method of claim 1 wherein the tissue is treated with a vascular permeability increasing ~~further~~ agent distinct from the cGMP-specific phosphodiesterase-5 (PDE-5) inhibitor compound ~~to increase vascular permeability~~.

75. (currently amended) The method of claim 1 wherein ~~the~~ a permeability agent in addition to the cGMP-specific phosophodiesterase-5 (PDE-5) compound is administered and ~~that~~ said permeability agent is selected from the group consisting of: serotonin, bradykinin, platelet-activating factor, prostaglandin E_1, histamine, vascular ~~endothelium~~ endothelial growth factor, zona occludens toxin, interleukin-2, plasma kinins, nitroglycerin, and nitroprusside ~~L-N-monomethyl arginine or L-N-nitro-arginine methyl ester~~.

76. (previously presented) The method of claim 1 wherein the nucleic acid is administered under a calcium ion concentration of about 500 μmol/L or less.

77. (previously presented) The method of claim 1 wherein the tissue is treated with a solution having a calcium ion concentration about 500 μmol/L or less.

78. (previously presented) The method of claim 1 wherein the nucleic acid is administered by perfusion.

79. (previously presented) The method of claim 78 wherein the perfusate of nucleic acid is recirculated and then readministered through the organ or cell mass.

80. (currently amended) The method of claim 1 wherein the cGMP-specific phosphodiesterase-5 (PDE-5) inhibitor compound is perfused through vasculature of the tissue prior to administration of the nucleic acid.

81. (previously presented) The method of claim 1 wherein a low calcium ion concentration solution is perfused through vasculature of the tissue prior to administration of the nucleic acid.

82. (previously presented) The method of claim 1 wherein a fluid having a calcium ion concentration of about 500 μmol/L or less is perfused through vasculature of the tissue.

83. (previously presented) The method of claim 1 wherein the nucleic acid is administered as a viral vector in a solution at a concentration of about 1 x 10^8 pfu/ml or greater.

84. (currently amended) The method of claim 1 wherein the nucleic acid is administered *ex vivo* to a ~~solid cell mass~~ heart.

85. (previously presented) The method of claim 1 wherein the nucleic acid is administered to a solid organ.

86. (currently amended) The method of claim 1 wherein the nucleic acid is administered to cells of an organ selected from the group consisting of: heart, lung, kidney, testes, ovaries, skeletal muscle, kidneys, brain ~~or~~ and spleen.

87. (previously presented) The method of claim 1 wherein the tissue is cardiac tissue.

88. (previously presented) The method of claim 1 wherein the tissue is liver tissue.

89. (previously presented) The method of claim 1 wherein the tissue comprises malignant cells.

90. (previously presented) The method of claim 1 wherein the nucleic acid is administered to a solid tumor.

91. (previously presented) The method of claim 1 wherein the tissue is mammalian.

92. (previously presented) The method of claim 1 wherein the nucleic acid is administered *ex vivo*.

93. (previously presented) The method of claim 1 wherein the nucleic acid is administered *in vivo*.

94. (previously presented) The method of claim 1 wherein the nucleic acid is administered to a human.

95. (currently amended) The method of claim 1 wherein the nucleic acid is administered to an animal selected from the group consisting of: livestock, poultry, ~~or~~ dog, ~~or~~ and cat.

96. (currently amended) A method for delivering nucleic acid to cells in a tissue of interest, comprising:

administering to the tissue a cGMP-specific, phosphodiesterase-5 (PDE-5) inhibitor compound and exogenous nucleic acid, wherein the inhibitor is administered prior to and/or simultaneously with the nucleic acid, and wherein the exogenous nucleic acid is administered to a solid cell mass selected from the group consisting of a solid organ and a solid tumor.

97. (new) The method of claim 1 wherein the cGMP-specific phosphodiesterase-5 (PDE-5) inhibitor compound is a pyrazolo[4,3-d] prymidin-7-one.

98. (new) The method of claim 78 wherein the nucleic acid is administered to the tissue via a catheter.

99. (new) The method of claim 96 wherein the nucleic acid is administered to the tissue by perfusion via a catheter.

100. (new) The method of claim 1 wherein the nucleic acid is administered to the tissue by direct injection to myocardium.

101. (new) The method of claim 96 wherein the nucleic acid is administered to the tissue by direct injection to myocardium.

102. (new) The method of claim 1 wherein the nucleic acid is administered to the tissue by percutaneous intracoronary delivery.

103. (new) The method of claim 96 wherein the nucleic acid is administered to the tissue by percutaneous intracoronary delivery.

104. (new) The method of claim 78 wherein the perfusion is via the coronary artery.

105. (new) The method of claim 96 wherein the nucleic acid is administered by perfusion of the coronary artery.

106. (new) The method of claim 1 wherein the nucleic acid is administered to the tissue by direct injection.

107. (new) The method of claim 96 wherein the nucleic acid is administered to the tissue by direct injection.

108. (new) The method of claim 1 wherein the inhibitor is a tetracyclic, cGMP-specific PDE-5 inhibitor.

109. (new) The method of claim 96 wherein the inhibitor is a tetracyclic, cGMP-specific PDE-5 inhibitor.

110. (new) The method of claim 1 wherein the inhibitor is administered orally.
111. (new) The method of claim 96 wherein the inhibitor is administered orally.